I. AMENDMENT

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-19. (Canceled)

20. (Currently amended) A kit useful for the treatment of a mammal suffering from or predisposed to a neoplastic disorder comprising at least one container containing substantially purified dimeric antibodies that bind specifically to TAG-72,

each dimeric antibody comprising two antibodies that are non-covalently associated to form a tetravalent antibody dimer having four antigen-binding sites that bind specifically to TAG-72,

wherein each of the antibodies in the dimer comprises two antibody heavy chain polypeptides having the heavy chain variable region amino acid sequence shown in Figure 4A (SEQ ID NO: 7), and two antibody light chain polypeptides having the light chain variable region amino acid sequence shown in Figure 5A (SEQ ID NO: 9), and has two antigen-binding sites that bind specifically to TAG-72;

wherein each of the four antibody heavy chain polypeptides in the dimeric antibody comprises a human gamma-1 constant region wherein a C_H2 domain is deleted from, and a C_H3 domain is fused directly to the hinge region;

wherein said dimeric, tetravalent antibodies are purified from monomeric, divalent, C_H2 domain-deleted antibodies that bind specifically to TAG-72;

and further comprising a label or an insert indicating that said dimeric antibody may be used to treat said neoplastic disorder.

21-28. (Canceled)

29. (Currently amended) Substantially purified dimeric antibodies that bind specifically to TAG-72,

each dimeric antibody comprising two antibodies that are non-covalently associated to form a tetravalent antibody dimer having four antigen-binding sites that bind specifically to TAG-72,

wherein each of the antibodies in the dimer comprises two antibody heavy chain

polypeptides having the heavy chain variable region amino acid sequence shown in Figure 4A (SEQ ID NO: 7), and two antibody light chain polypeptides having the light chain variable region amino acid sequence shown in Figure 5A (SEQ ID NO: 9), and has two antigen-binding sites that bind specifically to TAG-72; and

wherein each of the four antibody heavy chain polypeptides in the dimeric antibody comprises a human gamma-1 constant region wherein a C_H2 domain is deleted from, and a C_H3 domain is fused directly to the hinge region;

wherein said dimeric, tetravalent antibodies are purified from monomeric, divalent, C_H2 domain-deleted antibodies that bind specifically to TAG-72.

30-37. (Canceled)

38. (Previously presented) The substantially purified dimeric antibodies of claim 29, wherein said dimeric antibody is conjugated to a cytotoxic agent.

39. (Previously presented) The substantially purified dimeric antibodies of claim 38, wherein said cytotoxic agent comprises a radioisotope.

40. (Previously presented) The substantially purified dimeric antibodies of claim 39, wherein said radioisotope is selected from the group consisting of ^{90}Y, ^{125}I, ^{131}I, ^{123}I, ^{111}In, ^{105}Rh, ^{153}Sm, ^{67}Cu, ^{67}Ga, ^{166}Ho, ^{177}Lu, ^{186}Re and ^{188}Re.

41-61. (Canceled)

62. (Previously presented) The kit of claim 20, wherein said antibody dimer comprises four antibody heavy chain polypeptides having the heavy chain polypeptide amino acid sequence shown in Figure 4A (SEQ ID NO: 7), and four antibody light chain polypeptides having the light chain polypeptide amino acid sequence shown in Figure 5A (SEQ ID NO: 9).

63. (Previously presented) The kit of claim 20 wherein said neoplastic disorder is colon cancer.

64-74. (Canceled)

75. (Previously presented) The substantially purified dimeric antibodies of claim 29, wherein said antibody dimer comprises four antibody heavy chain polypeptides having the heavy chain polypeptide amino acid sequence shown in Figure 4A (SEQ ID NO: 7), and four antibody light chain polypeptides having the light chain polypeptide amino acid sequence shown in Figure 5A (SEQ ID NO: 9).

76. (Previously presented) The substantially purified dimeric antibodies of claim 38, wherein said cytotoxic agent is selected from the group consisting of cytostatic agents, alkylating agents, antimetabolites, anti-proliferative agents, tubulin binding agents, hormones and hormone antagonists, anthracycline drugs, vinca drugs, mitomycins, bleomycins, cytotoxic nucleosides, pteridine drugs, diynenes, podophyllotoxins, toxic enzymes, and radiosensitizing drugs.

77. (Previously presented) The substantially purified dimeric antibodies of claim 76, wherein said cytotoxic agent is selected from the group consisting of mechlorethamine, triethylenephosphoramide, cyclophosphamide, ifosfamide, chlorambucil, busulfan, melphalan, triaziquone, nitrosourea compounds, adriamycin, carminomycin, daunorubicin (daunomycin), doxorubicin, aminopterin, methotrexate, methopterin, mithramycin, streptonigrin, dichloromethotrexate, mitomycin C, actinomycin-D, porfiromycin, 5-fluorouracil, floxuridine, ftorafur, 6-mercaptopurine, cytarabine, cytosine arabinoside, podophyllotoxin, etoposide, etoposide phosphate, melphalan, vinblastine, vincristine, leurosidine, vindesine, leurosine, taxol, taxane, cytochalasin B, gramicidin D, ethidium bromide, emetine, tenoposide, colchicin, dihydroxy anthracin dione, mitoxantrone, procaine, tetracaine, lidocaine, propranolol, puromycin, ricin subunit A, abrin, diptheria toxin, botulinum, cyanginosins, saxitoxin, shigatoxin, tetanus, tetrodotoxin, trichothecene, verrucologen, corticosteroids, progestins, estrogens, antiestrogens, androgens, aromatase inhibitors, calicheamicin, esperamicins, and dynemicins.

78. (Previously presented) The substantially purified dimeric antibodies of claim 76, wherein said hormone or hormone antagonist is selected from the group consisting of prednisone, hydroxyprogesterone, medroprogesterone, diethylstilbestrol, tamoxifen, testosterone, and

aminogluthetimide.

79. (Previously presented) The substantially purified dimeric antibodies of claim 38, wherein said cytotoxic agent is a prodrug selected from the group consisting of phosphate-containing prodrugs, thiophosphate-containing prodrugs, sulfate containing prodrugs, peptide containing prodrugs, (-lactam-containing prodrugs, optionally substituted phenoxyacetamide-containing prodrugs, optionally substituted phenylacetamide-containing prodrugs, 5-fluorocytosinem, and 5-fluorouridine prodrugs that can be converted to the more active cytotoxic free drug.

80. (Currently amended) A kit useful for the treatment of a mammal suffering from or predisposed to a neoplastic disorder comprising at least one container containing substantially purified dimeric antibodies that bind specifically to TAG-72,

each dimeric antibody comprising two antibodies that are non-covalently associated to form a tetravalent antibody dimer having four antigen-binding sites that bind specifically to TAG-72,

wherein each of the antibodies in the dimer comprises two antibody heavy chain polypeptides having the heavy chain polypeptide amino acid sequence shown in Figure 4A (SEQ ID NO: 7) comprising a human gamma-1 constant region wherein the C_H2 domain is deleted and the C_H3 domain is fused directly to the hinge region, and two antibody light chain polypeptides having the light chain polypeptide amino acid sequence shown in Figure 5A (SEQ ID NO: 9), and has two antigen-binding sites that bind specifically to TAG-72;

wherein said dimeric, tetravalent antibodies are purified from monomeric, divalent, C_H2 domain-deleted antibodies that bind specifically to TAG-72;

and further comprising a label or an insert indicating that said dimeric antibody may be used to treat said neoplastic disorder.

81-83. (Canceled)

84. (Previously presented) The kit of claim 80 wherein said neoplastic disorder is colon cancer.

85. (Currently amended) Substantially purified dimeric antibodies that bind specifically to TAG-72,

each dimeric antibody comprising two antibodies that are non-covalently associated to form a tetravalent antibody dimer having four antigen-binding sites that bind specifically to TAG-72,

wherein each of the antibodies in the dimer comprises two antibody heavy chain polypeptides having the heavy chain polypeptide amino acid sequence shown in Figure 4A (SEQ ID NO: 7) comprising a human gamma-1 constant region wherein the C_H2 domain is deleted and the C_H3 domain is fused directly to the hinge region, and two antibody light chain polypeptides having the light chain polypeptide amino acid sequence shown in Figure 5A (SEQ ID NO: 9), and has two antigen-binding sites that bind specifically to TAG-72;

wherein said dimeric, tetravalent antibodies are purified from monomeric, divalent, C_H2 domain-deleted antibodies that bind specifically to TAG-72.

86. (Previously presented) The substantially purified dimeric antibodies of claim 85, wherein said dimeric antibody is conjugated to a cytotoxic agent.

87. (Previously presented) The substantially purified dimeric antibodies of claim 85, wherein said cytotoxic agent comprises a radioisotope.

88. (Previously presented) The substantially purified dimeric antibodies of claim 85, wherein said radioisotope is selected from the group consisting of ^{90}Y, ^{125}I, ^{131}I, ^{123}I, ^{111}In, ^{105}Rh, ^{153}Sm, ^{67}Cu, ^{67}Ga, ^{166}Ho, ^{177}Lu, ^{186}Re and ^{188}Re.

89. (Previously presented) The substantially purified dimeric antibodies of claim 86, wherein said cytotoxic agent is selected from the group consisting of cytostatic agents, alkylating agents, antimetabolites, anti-proliferative agents, tubulin binding agents, hormones and hormone antagonists, anthracycline drugs, vinca drugs, mitomycins, bleomycins, cytotoxic nucleosides, pteridine drugs, diynenes, podophyllotoxins, toxic enzymes, and radiosensitizing drugs.

90. (Previously presented) The substantially purified dimeric antibodies of claim 89, wherein said cytotoxic agent is selected from the group consisting of mechlorethamine, triethylenephosphoramide, cyclophosphamide, ifosfamide, chlorambucil, busulfan, melphalan, triaziquone, nitrosourea compounds, adriamycin, carminomycin, daunorubicin (daunomycin), doxorubicin, aminopterin, methotrexate, methopterin, mithramycin, streptonigrin, dichloromethotrexate, mitomycin C, actinomycin-D, porfiromycin, 5-fluorouracil, floxuridine, ftorafur, 6-mercaptopurine, cytarabine, cytosine arabinoside, podophyllotoxin, etoposide, etoposide phosphate, melphalan, vinblastine, vincristine, leurosidine, vindesine, leurosine, taxol, taxane, cytochalasin B, gramicidin D, ethidium bromide, emetine, tenoposide, colchicin, dihydroxy anthracin dione, mitoxantrone, procaine, tetracaine, lidocaine, propranolol, puromycin, ricin subunit A, abrin, diptheria toxin, botulinum, cyanginosins, saxitoxin, shigatoxin, tetanus, tetrodotoxin, trichothecene, verrucologen, corticosteroids, progestins, estrogens, antiestrogens, androgens, aromatase inhibitors, calicheamicin, esperamicins, and dynemicins.

91. (Previously presented) The substantially purified dimeric antibodies of claim 89, wherein said hormone or hormone antagonist is selected from the group consisting of prednisone, hydroxyprogesterone, medroprogesterone, diethylstilbestrol, tamoxifen, testosterone, and aminogluthetimide.

92. (Previously presented) The substantially purified dimeric antibodies of claim 86, wherein said cytotoxic agent is a prodrug selected from the group consisting of phosphate-containing prodrugs, thiophosphate-containing prodrugs, sulfate containing prodrugs, peptide containing prodrugs, (-lactam-containing prodrugs, optionally substituted phenoxyacetamide-containing prodrugs, optionally substituted phenylacetamide-containing prodrugs, 5-fluorocytosinem, and 5-fluorouridine prodrugs that can be converted to the more active cytotoxic free drug.

93. (Canceled)

94. (Currently Amended) The kit of claim 20, wherein the dimeric, tetravalent antibodies are ~~greater than 98%~~ purified to greater than 98% homogeneity.

95. (Canceled)

96. (Currently Amended) The substantially purified dimeric, tetravalent antibodies of claim 29, which are ~~greater than 98%~~ purified to greater than 98% homogeneity.

97. (Canceled)

98. (Currently Amended) The kit of claim 80, wherein the dimeric, tetravalent antibodies are ~~greater than 98%~~ purified to greater than 98% homogeneity.

99. (Canceled)

100. (Currently Amended) The substantially purified dimeric, tetravalent antibodies of claim 85, which are ~~greater than 98%~~ purified to greater than 98% homogeneity.

101. (Canceled)